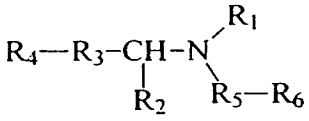
CLAIMS

1. A method for rescuing damaged nerve cells in a patient, comprising:

administering to a patient having damaged nerve cells an amount of a deprenyl compound such that rescuing of damaged nerve cells occurs in the patient;

with the proviso that the deprenyl compound is not selected from the group consisting of deprenyl, pargyline, AGN-1133, or AGN1135.

2. The method of claim 1, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

R_2 is hydrogen or alkyl;

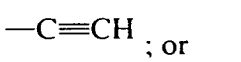
R_3 is a single bond, alkylene, or $-(CH_2)_n-X-(CH_2)_m$;

in which X is O, S, or N-methyl; m is 1 or 2; and n is 0,1, or 2;

R_4 is alkyl, alkenyl, alkynyl, heterocyclyl, aryl or aralkyl; and

R_5 is alkylene, alkenylene, alkynylene and alkoxylene; and

R_6 is C_3-C_6 cycloalkyl or


; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group;

and pharmaceutically acceptable salts thereof.

3. The method of claim 2, wherein R_1 is a group that can be removed *in vivo*.

4. The method of claim 2, wherein R_1 is hydrogen.

5. The method of claim 2, wherein R_1 is alkyl.

6. The method of claim 5, wherein R_1 is methyl.

7. The method of claim 2, wherein R_2 is methyl.

8. The method of claim 2, wherein R_3 is methylene.

9. The method of claim 2, wherein R_4 is aryl.

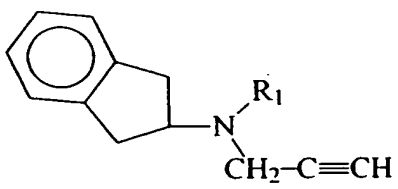
10. The method of claim 2, wherein R_4 is phenyl.

11. The method of claim 2, wherein R_5 is methylene.

12. The method of claim 2, wherein R_6 is

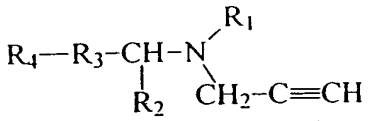
$$—C\equiv CH$$

13. The method of claim 2, wherein the deprenyl compound has the structure



wherein R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl.

14. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

R_2 is hydrogen or alkyl;

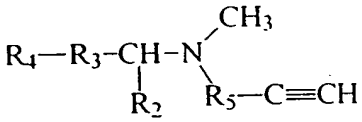
R_3 is a bond or methylene; and

R_4 is aryl or aralkyl; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group;

and pharmaceutically acceptable salts thereof.

15. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_2 is hydrogen or alkyl;

R_3 is a bond or methylene; and

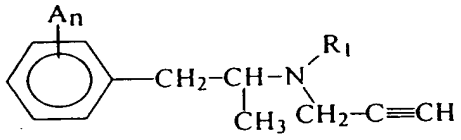
R_4 is aryl or aralkyl; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group; and

R_5 is alkylene, alkenylene, alkynylene and alkoxylene;

and pharmaceutically acceptable salts thereof.

16. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

A is a substituent independently selected for each occurence from the group consisting of halogen, hydroxyl, alkyl, alkoxyl, cyano, nitro, amino, carboxyl, $-CF_3$, or azido;

n is 0 or an integer from 1 to 5;

and pharmaceutically acceptable salts thereof.

17. The method of claim 1, wherein the deprenyl compound is (-)-desmethyldeprenyl.

18. A kit comprising a container of a deprenyl compound and instructions for administering a therapeutically effective amount of the deprenyl compound to a subject having damaged nerve cells such that rescuing of damaged nerve cells occurs in the subject.